Provided by Home Theater Research Group
www.htrgroup.com

EPSON®

PowerLite® TW100

Home Theater Projector

User's Guide

Important Safety Information

WARNING: Never look into the projector lens when the lamp is turned on; the bright light can damage your eyes. Never let children look into the lens when it is on. Never open any cover on the projector, except the lamp and filter covers. Dangerous electrical voltages inside the projector can severely injure you. Except as specifically explained in this *User's Guide*, do not attempt to service this product yourself. Refer all servicing to qualified service personnel.

WARNING: The projector and its accessories come packaged in plastic bags. Keep plastic bags away from small children to avoid any risk of suffocation.

Caution: When you replace the lamp, never touch the new lamp with your bare hands; the invisible residue left by the oil on your hands may shorten the lamp life. Use a cloth or glove to handle the new lamp.

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Welcome

Thank you for choosing the EPSON® PowerLite® TW100 Home Theater Projector. Now you can enjoy high-quality front or rear projection in the relaxing environment of your own home.

Features

The PowerLite TW100 offers these powerful features:

- 16:9 wide format LCD panel
- 600:1 contrast ratio
- High resolution of 1280 × 720
- 700 ANSI lumens
- Short lens focus; you can project an 80-inch diagonal image with the projector just 8 feet away
- Five setup configurations, including front or rear projection and ceiling mounted installation
- Whisper-quiet operation
- DCDi Advanced Image Processor technology (by Faroudja™) which reduces the jagged edges caused by conventional progressive conversion
- 3/2 menu pull-down circuit, matching the frame rate for film (24 frames per second) to video (30 FPS)
- Trigger port (to activate projection screen)
- Lock port for optional Kensington® MicroSaver® anti-theft device

Supported Devices

You can connect the projector to any of the following video sources: VCR, DVD player, DTV decoder, HDTV tuner, videodisc player, cable/satellite box, TV, video game console, audio/video receiver, camcorder, personal video recorder, digital camera, or laser disc player.

The projector supports composite video, S-Video, and component video, and it automatically senses the video format (HDTV, NTSC, PAL, or SECAM).

It can also be connected to a desktop or laptop PC, or Apple® Macintosh,® Power Macintosh™ series, PowerBook® computers, iMac™ and iBook™ series systems.

The *Quick Setup* sheet explains how to connect your projector to your other equipment. See the following section to see which cables are required.

Cable Requirements

The projector does not come with any cables. However, you may already have the ones you need or you can purchase them from EPSON (as described on pages 3 and 4). Refer to the list below to see which cables you need for your setup:

- To receive a composite video signal, you need an RCA video cable. (One is usually provided with your video device.)
- To receive an S-Video signal, you need an S-Video cable. (One is usually provided with your video device.)
- To receive a component video signal from a DVD player or other video device, you need a component video cable.
- If you want to connect more than one component video source, you need a VGA-to-component video cable.
- To connect a VGA computer to the projector, you need a VGA computer cable.
- To connect a computer with a DVI interface, you need a DVI/analog interface cable.

- Some older PowerBooks and Macintosh desktop models may need the Macintosh adapter set shown on page 60. Older iMac systems may need a special adapter to provide a VGA output port; see your computer dealer.

You can purchase many of these accessories from your dealer, by calling EPSON at (800) 873-7766, or by visiting the EPSON Store℠ at www.epsonstore.com (U.S. sales only). In Canada, please call (800) 463-7766 for dealer referral.

Optional Accessories

EPSON provides the following optional accessories for the projector:

Product	**Product number**
Replacement lamp and air filter	V13H010L17
Customized carrying cases:	
Samsonite® wheeled soft case	ELPKS35
ATA molded hard shell case	ELPKS40
ATA shipping case	ELPKS41
Soft shoulder bag	ELPKS13
Installation accessories:	
Ceiling mount	ELPMB36
Suspension adapter	ELPMBAPL
False ceiling plate	ELPMBFCP
Distribution amplifier	ELPDA01
Kensington security lock	ELPSL01
Presentation audio system	ELPPAS1
Wireless microphone system	ELPCVSII
Presentation cameras:	
High resolution document imager	ELPDC02
Motion presentation camera	ELPDC03
High resolution document camera	ELPDC04
Projection screens:	
50-inch portable screen	ELPSC06
60-inch Insta Theatre screen	ELPSC07
80-inch Insta Theatre screen	ELPSC08

Product	Product number
Macintosh adapter set (includes monitor adapter and desktop adapter)	ELPAP01
Component video cable (VGA to component video)	ELPKC19
Digital video cables: DVI to DVI, 10 feet (3 meters) DVI to DFP, 10 feet (3 meters) DVI to analog video, 10 feet (3 meters)	 ELPKC20 ELPKC21 V12H005C25

Easy to Use

The projector is very easy to use. Buttons on the projector and remote control let you make quick adjustments to the projected image:

- If multiple devices are connected to the projector, press the Input buttons to switch from one to the next.
- Press the Colortune button to select the best color mode. Choose from Dynamic, Theater, Natural, PC, or SRGB.
- The Aspect button lets you select from five aspect ratios to match the image source (Normal, Zoom, Squeeze, Normal through, Squeeze through).

Additionally, you can use the projector's simple menu system to adjust the image quality (including color, sharpness, noise reduction and the motion detect setting).

Once your settings are just the way you want them, you can save them for future use by assigning them to one of the 6 remote control memory buttons.

Using Your Documentation

Your owner's kit includes warranty information, your PrivateLine® Support card, *Quick Setup* sheet, and this *User's Guide*. See the *Quick Setup* sheet to connect the projector to a video source such as a DVD player or VCR. (If you are connecting the projector to a computer, see Appendix A in this book for detailed instructions.)

This *User's Guide* contains all the other information you need to use your projector. Please follow these guidelines as you read through the book:

- Warnings must be followed carefully to avoid bodily injury.
- Cautions must be observed to avoid damage to your equipment.
- Notes contain important information about your projector.

For More Information

If you need help not covered in the documentation, try the following:

- Built-in help system
  Press the Help button on the projector or the remote control to get instant help while using the projector. See page 46 for details.
- support.epson.com
  Download FAQs and e-mail your questions to EPSON support.
- EPSON PrivateLine Support service
  This service requires a PIN code, which is provided on a special card included in your owner's kit. To get help fast from EPSON, call (800) 637-7661 and enter the PIN on the card in your owner's kit. If your projector needs to be repaired, EPSON provides overnight replacement service in most parts of the U.S. and Canada.

  You can also take advantage of EPSON's automated support services 24 hours a day. See page 57 for more information.

Registration and Warranty

Your projector comes with a basic carry-in warranty (on page 69) as well as an international warranty; so you can use your projector with confidence anywhere in the world. For details, see the warranty brochure included in your owner's kit.

In addition, EPSON offers free Extra Care℠ Road Service. In the unlikely event of an equipment failure, you won't have to wait for your unit to be repaired. Instead, EPSON will ship you a replacement unit anywhere in the United States or Canada, usually via overnight delivery. See the brochure in your owner's kit for details.

To register, simply fill out the registration card included in your owner's kit and mail it to EPSON. Or you can register online at http://epsonwebreg.info2.net/. Registering also lets you receive special updates on new accessories, products, and service.

1 Using the Projector

Follow the instructions in this chapter to:

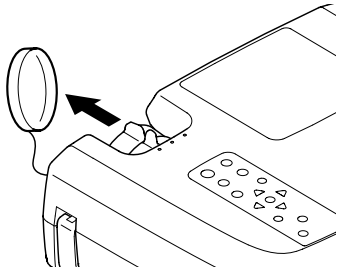
- Turn on the projector and other equipment
- Switch between picture sources
- Adjust the image
- Turn off the picture and sound
- Freeze the action
- Shut down the projector

Turning On Your Equipment

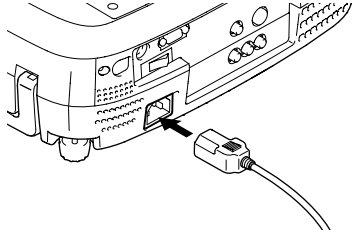
Make sure your projector and other equipment are set up and connected correctly, as described on the *Quick Setup* sheet or in Appendix A. Then turn on your projector and other equipment as described below.

Turning On the Projector

1. Make sure the power is turned off for the projector and any sources you have connected to it.
2. Remove the lens cover.

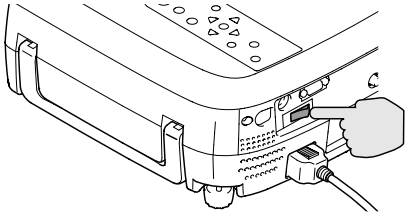


3. Connect one end of the power cord to the power inlet on the back of the projector.

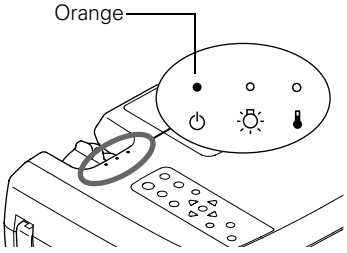


4. Connect the other end to a grounded electrical outlet.

5. Turn on the main power switch on the back of the projector.



The ⏻ power light on top of the projector flashes orange, and then stays orange.



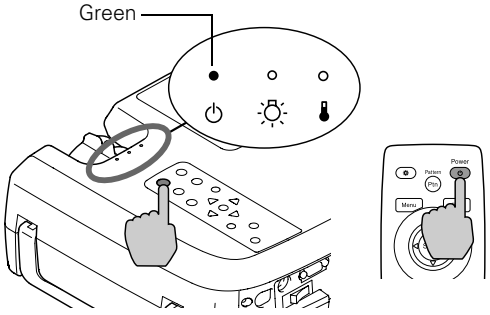
note

The projector will not respond to any buttons on the control panel or remote control while the power light is flashing orange or green.

6. Turn on the power to any equipment connected to the projector.
7. Press the Power button on the remote control or the top of the projector.

warning

Never look into the lens when the lamp is on. This can damage your eyes, and is especially dangerous for children.



The ⏻ power light flashes green as the projector warms up, and the projection lamp comes on in about 15 seconds. The power light stays green, and you may see a blue screen with the No Signal message displayed. This is normal.

8. Press the Play button on your video source to start your video (if necessary).
9. If you've connected more than one video and/or computer source, you may need to select a different source. Press the Source button on the projector or one of the Input buttons on the remote control. (See "Switching Between Picture Sources" on page 11 for more information.)

   If you're projecting from a computer, and you see a New Hardware Wizard message saying that it has found a plug-and-play monitor, click Cancel.

   If the image is upside-down or reversed, you need to change the Projection option in the Setting menu. See page 33.

   If a projected image fails to appear, see the next section for help.

Once you see your image, turn to page 12 for instructions on focusing and making other image adjustments.

When you're ready to turn off the projector, follow the steps on page 20.

What To Do If You See a Blank Screen

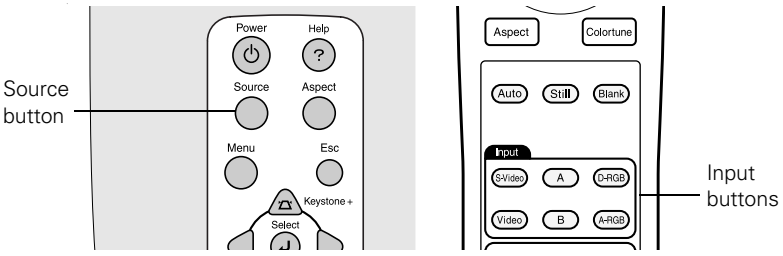
If you see a blank screen or a blue screen with the No Signal message after turning on your computer or video source, try the following:

- Make sure the power light is green and not flashing and the lens cover is off.
- Make sure the cables are connected correctly, as described on the *Quick Setup* sheet (or Appendix A, for computers).
- Select a different source (if more than one is connected to the projector) by pressing one of the Input buttons on the remote control. (See page 11.)
- If you connected a computer, try restarting it.
- If you're using a laptop, you may need to set up your system to display on the projector screen as well as the LCD screen, as described on page 51.

Switching Between Picture Sources

If your projector is connected to more than one video source, you can use the buttons on the control panel or remote control to switch between the different sources.

On the projector's control panel, press the Source button to display the currently selected source. Press it again quickly to switch. Continue pressing the button until the name of the source you want is displayed on the screen.



On the remote control, press one of the Input buttons to select the desired source:

Press this button	To select the source connected to this port
S-Video	S-Video
Video	Composite video
A	Input A component video
B	Input B component video or computer
D-RGB	D-RGB DVI-I port (digital cable)
A-RGB	A-RGB DVI port (analog cable)

After you select a source, the screen goes dark for a moment before the image appears.

Adjusting the Image

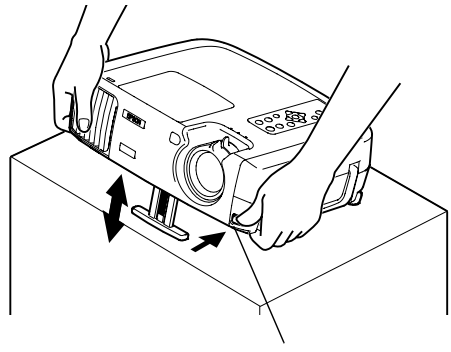
Once you see your image, you'll need to make certain adjustments:

- If the image is too high or too low, you can reposition it as described below.
- To focus or zoom your image, see page 13.
- If the image isn't square, see page 14.
- To select a different color mode, see page 16.
- To change the aspect ratio, see page 17.
- If the projected image is flickering or "noisy," see page 19.

Adjusting the Height of Your Image

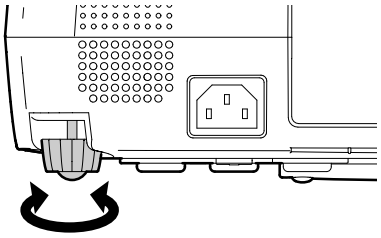
The projector should be as perpendicular to the screen as possible. If the image is too low, you can raise it by extending the projector's front foot.

1. Stand behind the projector. Press the foot release button and lift the front of the projector. This unlocks the foot.



2. Once the image is positioned where you want it, release the button to lock the foot in place.

3. If you need to straighten the image, rotate the round adjustable foot at the back of the projector.

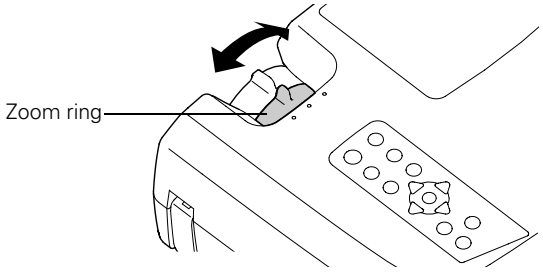


If the image is no longer square after raising it, see page 14.

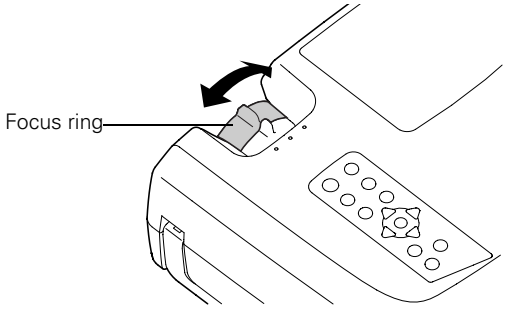
Focusing and Zooming Your Image

The size of your projected image is determined mainly by the distance between the projector and the screen, but you can also use the zoom ring to enlarge or reduce the image.

note
To determine how far the projector should be from the screen, see "Screen Size and Projection Distances" on page 77.



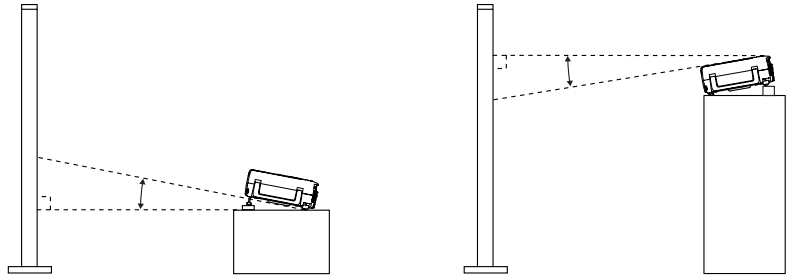
Rotate the focus ring to sharpen the image.



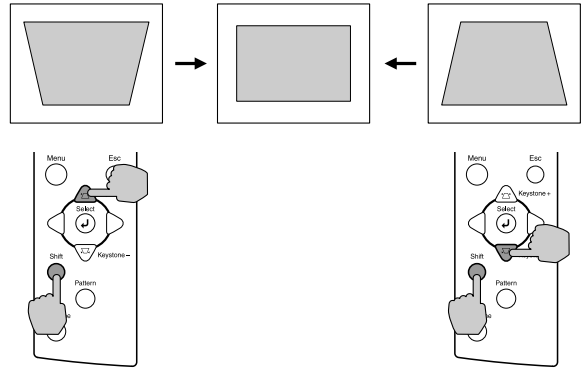
note
You can also adjust the focus by displaying a test pattern (as described on page 15).

Adjusting the Image Shape

If the projector is raised in the front or the back, like this:



your projected image may not be square or rectangular; it may have a "keystone" shape like one of the examples shown below.



To correct this, hold down the Shift button on the projector's control panel and press the top or bottom Keystone button until the corners of the image are square.

After correction, your image will be slightly smaller.

The keystone adjustment remains in the projector's memory, so if you later change the position of the projector, you might need to adjust the keystone setting as well.

If the image becomes distorted or blurry after you make a keystone correction, try decreasing the Sharpness setting in the Video menu, as described on page 28.

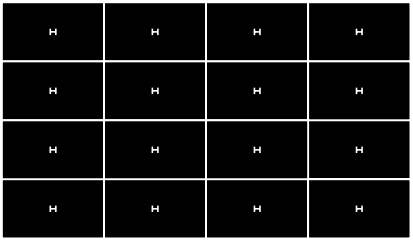
note

You can also correct keystone distortion by displaying a test pattern (as described in the next section) or through the projector's Setting menu (see page 33).

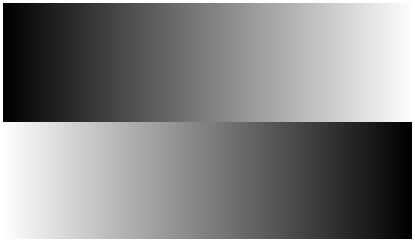
Displaying a Test Pattern

You can display a test pattern before or during projection to adjust the focus, correct keystone distortion, and select the best light and dark shades. Follow these steps:

1. Press the Pattern button on the remote control or the projector's control panel. You see the Crosshatch pattern:



2. Adjust the focus ring until the Hs are as sharp as they can be. If you need to correct any keystone distortion, hold down the Shift button on the projector's control panel and press the top or bottom Keystone button, as described on page 14.
3. Press the Pattern button again to display the Grayscale pattern:



Use this pattern to adjust the dark and light shades. Follow the instructions on page 27 to select the Video menu and choose the Color Adjustment option. Then select either Color Temp or RGB. (See page 29 for more information.)

When you display the menu, the test pattern disappears. After you adjust the color, you need to exit the menu and display the test pattern again to see your changes take effect.

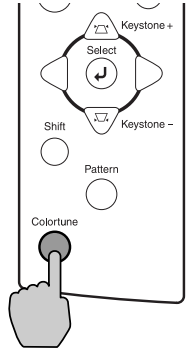
Selecting the Color Mode

You can select from five pre-set color modes to get the best color settings:

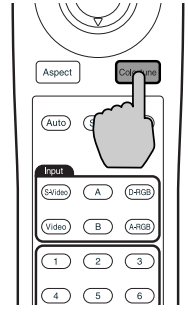
- Dynamic—for projecting images with greater modulation and color intensity
- Theater—good when projecting movies or images with dark scenes
- Natural—best for projecting images in their natural color
- PC—brightest color mode for projecting computer images
- sRGB—good for images that conform to the sRGB standard. If the connected video source has an sRGB mode, set both the projector and the video source to sRGB.

note
You can also change the color mode through the Video menu. See page 28.

To change the color mode, press the Colortune button until the desired setting appears on the screen.

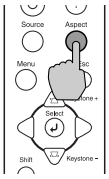


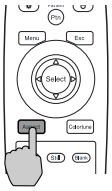
Projector



Remote control

Selecting the Aspect Ratio





The aspect ratio is the ratio between an image's length and its height. Standard images have an aspect ratio of 4:3 and HDTV images have an aspect ratio of 16:9. If your video source is 16:9, the projector displays it in its native ratio. If it is 4:3, you can choose the best mode for projecting it.

Press the **Aspect** button on the control panel or the remote control to select one of the following aspect ratios. The current setting appears on the screen each time the ratio changes.

Normal mode

4:3 image on input source

displayed through projector

Normal mode maintains the aspect ratio of the image source and the images are projected onto a 16:9 screen area. When 4:3 images are being projected, black bands appear on the sides.

Squeeze mode

16:9 image displayed in squeeze mode on a 4:3 TV screen

displayed through projector

Use this setting if the video source has a 16:9 output mode. If images in squeeze mode are viewed on a 4:3 TV screen, the images are compressed (as shown on the left). But when squeeze mode is selected on the projector, the images are projected correctly in their native wide-screen (16:9) format.

image output in 4:3 format

image displayed through the projector in squeeze mode

When images output in 4:3 format are projected using the projector's squeeze mode, they are elongated horizontally.

<table>
<tr>
<td>Zoom mode

4:3 image cut at top and bottom

image resized to 16:9</td>
<td>In zoom mode, images output in 4:3 format are cropped at the top and bottom by a set amount and then projected in a 16:9 format.</td>
</tr>
<tr>
<td>Through mode

4:3 image on 4:3 input source

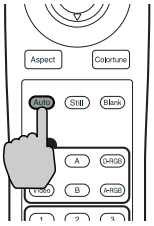
image displayed in projector's normal through mode</td>
<td>If the input signal resolution is 1280 x 720 or less, the images are projected with the resolution unchanged. The size of the displayed images depends on the input resolution.</td>
</tr>
<tr>
<td>Squeeze Through mode

16:9 image on 4:3 input source

image displayed in projector's squeeze through mode</td>
<td>If the input signal resolution is 1280 x 720 or less, the input signal resolution is elongated horizontally and the images are projected at an aspect ratio of 16:9. The size of the displayed images will change depending on the input resolution.</td>
</tr>
</table>

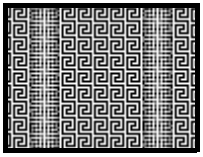
Adjusting the Tracking and Synchronization

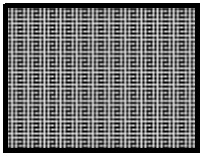
If you're projecting from a computer and displaying an image that contains a lot of detail (such as the text of a letter), you may notice one or more vertical stripes or bands, or some of the characters may look heavy or blurred. You can increase the clarity by pressing the Auto button on the remote control. This resets the projector's tracking, sync, and position settings.



Auto button

If further adjustment is needed, you can correct the image manually using the Tracking and Sync options in the Video menu. (See page 29.)


Incorrect tracking


Incorrect sync

Turning Off the Picture and Sound

You can use the Blank button on the remote control to darken your screen and turn off the sound. This is useful if you pause the video.

- To turn off the picture and sound, press the Blank button. The screen goes dark.
- To turn the picture and sound back on, press Blank again.

If you don't pause the video it continues to play even though you can't see or hear it. When you press the Blank button again to resume, the playback does not resume at the exact point you paused it.

note

You can make the blank screen blue, instead of black, or display the EPSON logo on the screen whenever you press the Blank *button.*

Freezing the Action

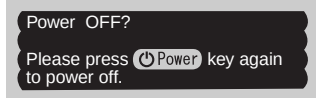
If you want to temporarily freeze the action on the screen, press the Still button on the remote control. This freezes any moving images on the screen until you press the Still button again.

Like the Blank feature, the video and audio input continue while the moving images are paused, so when you press the Still button again to resume, the playback does not resume where you stopped it.

Shutting Down the Projector

When you've finished using the projector, follow the recommended procedure to shut it down. This extends the life of the lamp and protects the projector from possible overheating.

1. Turn off any video or computer sources connected to the projector first.
2. To turn off the projector, press the Power button on the projector or remote control. You see a confirmation message:

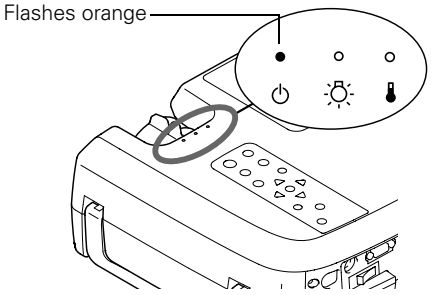


   If you don't want to turn it off, press any other button or ignore the message. (It disappears in about 7 seconds if you don't respond.)

note

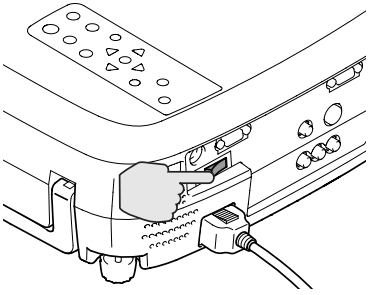
If you have turned on the Sleep *mode option in the projector's Setting menu, the projector turns off the lamp if it has not received any input signals for the selected amount of time (1, 5, or 10 minutes). See page 33 for more information.*

3. Press the Power button again. The lamp is turned off and the ⏻ power light flashes orange for a minute or two as the projector cools down. When the projector has cooled, the power light stays orange and the exhaust fan shuts off.



If you want to turn the projector on again, wait until the orange light stops flashing. Then press the Power button.

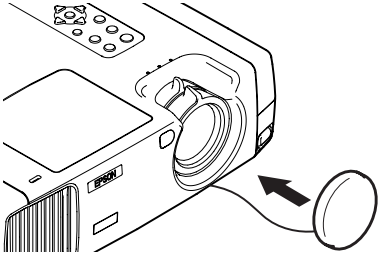
4. If you will not be using the projector for an extended period of time, turn off the main switch on the back of the projector. (See "Storing the Projector" on page 43 for more information.)



caution

Do not turn off the main power switch while the projector is cooling down. This can cause problems with the lamp operation.

5. Replace the lens cover.



caution

To avoid damaging the projector or lamp, never unplug the power cord when the power light is green or flashing orange.

2 Fine-tuning the Projector

You can use the projector's on-screen menus to adjust the image quality, color, and other features. You can display the full menus on the screen to select your settings or display a line menu to change the Video settings for the image being projected.

This chapter covers the following information:

- Using the menu system
- Adjusting the image
- Customizing projector operation
- Saving and recalling image settings
- Viewing lamp usage and other information
- Restoring the default settings

Using the Projector's Menu System

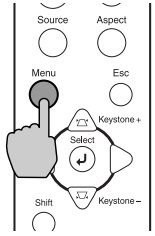
The projector menus let you adjust and customize many projector features:

- The **Video** menu controls the look and quality of the projected image. It offers several ways to adjust the color (including the black and white levels) and fine-tune the sharpness of the image.
- The **Advanced** menu lets you change signals from interlaced mode to progressive conversion mode, adjust motion detection, turn on noise reduction, and select the video input signal.
- With the **Setting** menu, you can correct keystone distortion, select the blank screen color, enable/disable the startup screen, choose the projection method (front, rear, ceiling), select the language, and change the sleep mode setting.
- The **About** menu provides information about lamp status and computer or video settings.
- The **Reset All** menu lets you restore the factory defaults for all the projector settings.

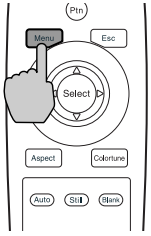
You can use the buttons on the control panel or remote control to access the menus and change settings. Follow the steps below when changing any settings using the full menus. If you want to use the line menu to change one of the video settings see "Changing Video Settings Using the Line Menu" on page 26.

Changing Settings Through the Full Menus

1. Press the Menu button on the control panel or the remote control.

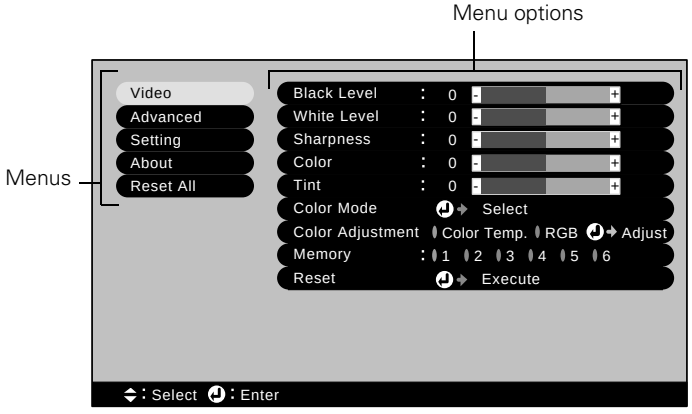


Projector



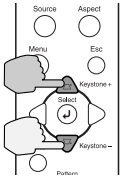
Remote

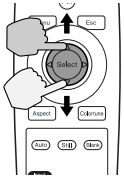
You see the main menu screen:



The five menus are listed on the left, and the options available for the highlighted menu are shown on the right.

2. Press the ▲ or ▼ button on the control panel, or press up or down on the Select button on the remote control, to scroll through the menu list.
3. When the menu you want is highlighted, press the Select button to select it. The highlight moves to the first option for that menu.
4. Press the ▲ or ▼ button on the control panel, or press up or down on the Select button on the remote control to scroll through the list of options. (If a computer or video source isn't connected, certain options may be unavailable.)





note

The options appearing in the Video and About menus depend on the input source being projected.

5. Use the ◁ or ▷ button (control panel) or press right or left on the Select button (remote control) to change the setting for the selected option.

   Enabled settings are indicated by a green light, while disabled ones are gray.

   If an option has a submenu, press the Select button to display it.

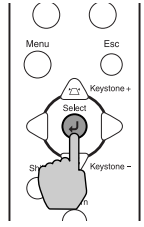
6. Press the Esc button to return to the main menu. Your changes are saved automatically.
7. Press Esc again, or the Menu button, to exit the menu system.

note
If you want to restore the default settings for any menu, select Reset *and press the* Select *button. Then choose* Yes *and press* Select.

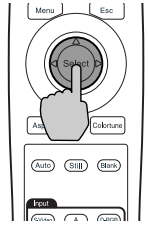
Changing Video Settings Using the Line Menu

Follow these steps to change the video menu settings using the line menu:

1. Press the Select button on the control panel or the remote control.



Projector



Remote control

You see the line menu:

2. Press the △ or ▽ button on the control panel, or press up or down on the Select button on the remote control until the setting you want to change appears on the screen.
3. Use the ◁ or ▷ button (control panel) or press right or left on the Select button (remote control) to change the setting.

note
If no button has been pressed for 3 seconds while the line menu is displayed, it is turned off automatically.

4. Repeat steps 2 and 3 to change any other settings using the line menu. Press Esc to close any submenu.
5. When you finish, press the Esc or Menu button to turn off the line menu.

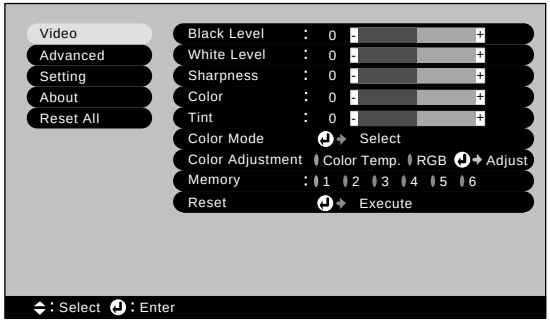
Adjusting the Image Appearance

The Video and Advanced menus let you make a variety of adjustments to the projected image to get the best color and quality.

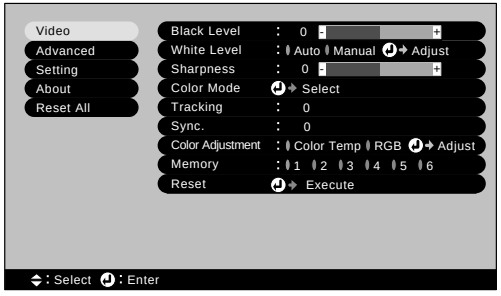
The options available in the Video menu depend on which source is connected to the projector: video (composite, S-Video, or component video), standard computer video (analog RGB), or DVI computer video (digital RGB).

note

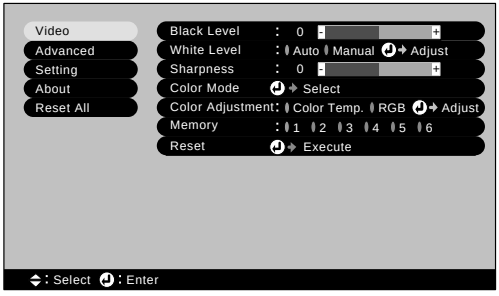
You can also change the Video menu settings using the line menu, as described on page 26.



Video menu for component Video, composite video, or S-Video



Video menu for standard computer display (Analog-RGB)



Video menu for DVI computer display (Digital-RGB)

Adjusting Image Color and Clarity

Follow these steps to get the best color and the sharpest image using the Video menu:

1. Press the Menu button. You see the menu screen.
2. Press the Select button to select the Video menu.
3. Use the ⏢, ⏣, ◁, or ▷ buttons on the control panel or the Select button on the remote control to set the following options:

   - Black Level
     Adjusts the brightness of dark areas without affecting the white level setting. Increase (+) the setting to make dark scenes more intense. Decrease (–) the setting to make dark scenes less intense.
   - White Level
     Adjusts the brightness of light areas without affecting the black level setting. Increase (+) the setting to make light scenes brighter and increase contrast. Decrease (–) the setting to make variations in light areas more distinct and reduce contrast.
   - Sharpness
     Adjusts the sharpness of the image.
   - Color (video only)
     Adjusts the color depth or intensity of the image.
   - Tint (NTSC video only)
     Adjusts the balance of green to magenta in the image.
   - Color Mode
     Corrects the vividness of image color. You can select from the following five settings, and save a different one for each video and/or computer source:

     Dynamic: For projecting images with greater modulation and intensity

     Theater: Ideal for movies with lots of dark scenes

     Natural: For optimizing images with natural color

PC: Best for making computer presentations as bright as possible

sRGB: To use the sRGB standard for computer displays (the default when projecting from a computer with analog video)

- Tracking (analog computer images only)
  Removes unwanted vertical lines from a computer image by matching the projector's internal clock to the computer display signal.
- Sync (analog computer images only)
  Corrects fuzziness by synchronizing the projector with the tracking signal sent from the computer.
- Color Adjustment
  Adjusts the color temperature of the projected image. Select Color Temp. to set a temperature between 5000K and 10000K and adjust the Flesh Tone. Select RGB to adjust individual red, green, and blue values, as shown. (This option is not available if sRGB is selected as the Color Mode setting.)

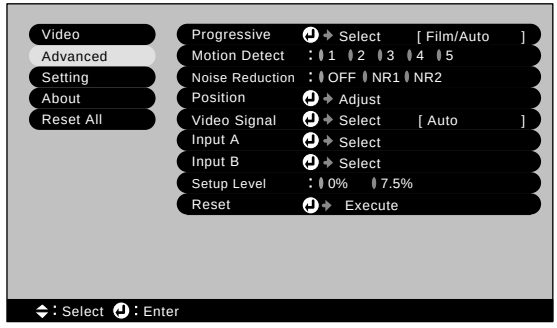
4. When the image is set correctly, press Esc or Menu. Your settings are automatically saved.

Configuring the Input Source

Use the Advanced menu to configure the projector for the current input source. For example, this menu lets you adjust the position of the screen image, select the progression mode, adjust the motion detect setting, and turn on the noise reduction feature.

1. Press the Menu button to display the menu screen.

2. Press the ▽ button on the control panel, or press down on the Select button on the remote control, to highlight the Advanced menu and press the Select button. You see these settings:



3. Use the △, ▽, ◁, or ▷ buttons on the control panel or the Select button on the remote control to set the following options:

   - Progressive (available for 480i and 575i image signals only)
     The projector automatically determines whether the input signal is a film source or not, so it is best to leave this option to the default Film/Auto setting and use the 3/2 pull-down function. Turn it OFF if you want to switch from the interlaced mode to progressive (IP) conversion mode, for example, when viewing images with a lot of movement. Select Video when the input source is not a 24 FPS film source.

   - Motion Detect (available for 480i and 575i image signals only)
     Use this option to adjust the amount of motion in a projected image. Select a low setting (1 or 2) to reduce flickering and sharpen images; this is best for still images. When viewing fast moving images, such as sports, choose a higher setting (4 or 5) to project smoother images with less jerkiness.

- Noise Reduction (available for 480i and 575i image signals only)
  Turn this feature on (select NR1 or NR2) to reduce visual "noise" to make the image softer. This is especially useful when text and video images are combined, as in movies with subtitles. If you are projecting from a DVD player, this setting should usually be off because DVDs are relatively free from interference.
- Position
  See "Repositioning the Image" on page 32.
- Video Signal (available for composite or S-Video signals only)
  Leave this setting to Auto unless the input source is N-PAL format or the documentation for your input source says to select a specific setting.
- Input A (available for 480i and 575i image signals only)
  Specifies the format for the component video source connected to the Input A port. Select YCbCr for DVD images or YPbPr for progressive scan DVD or HDTV images.
- Input B
  Specifies the format for the source connected to the Input B port. If the source is a computer, select RGB. Select YCbCr for DVD images or YPbPr for progressive scan DVD or HDTV images.
- Setup Level (available for composite, S-Video, or 480i and 575i image signals)
  If you are using the projector with a non-standard input source that has different black level settings, use this feature to adjust the image and select 0% or 7.5%. See the documentation that came with the input source for more information.

4. When you're finished, press Esc or Menu.

Repositioning the Image

note

If you have repositioned the image or adjusted the sync setting, you can use the Auto *button on the remote control to restore the default settings.*

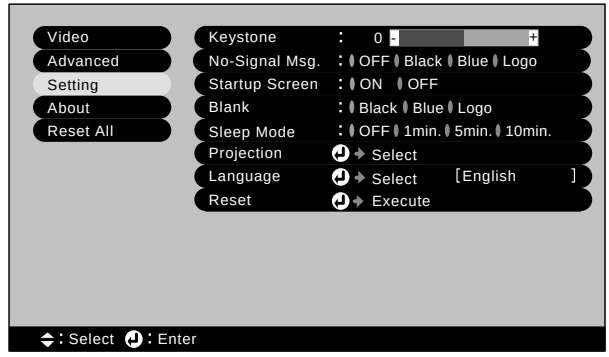
Follow these steps to move the image to a different position on the screen:

1. Press the Menu button to display the menu screen.
2. Select the Advanced menu.
3. Select the Position option. You see a positioning screen.
4. Use the ⏢, ⏣, ◁, or ▷ buttons on the control panel or press the Select button on the remote control in the desired direction to move the image left, right, up, or down.
5. When the image is positioned the way you want, press Esc to exit.

Customizing Projector Operation

You can use the Setting menu to correct keystone distortion, change the startup screen and blank screen display, select front or rear projection, and customize several other features. Follow these steps:

1. Press the Menu button to display the menu screen.
2. Press the ⏣ button on the control panel, or press down on the Select button on the remote control, to highlight the Setting menu and press the Select button. You see these settings:



3. Use the ⏢, ⏣, ◁, or ▷ buttons on the control panel or the Select button on the remote control to set the following options:

   - Keystone
     Corrects keystone distortion of the image. This procedure makes the image smaller. If the image looks uneven after you adjust the shape, decrease the Sharpness setting (see page 28).
   - No-Signal Msg.
     Selects a screen color (blue or black) to display when the projector is not receiving a signal. (The logo setting displays the EPSON logo.)
   - Startup Screen
     Turn on this option to display the EPSON logo whenever the projector starts.
   - Blank
     Selects the screen color to display (blue or black) when you press the Blank button. (The logo setting displays the EPSON logo.)
   - Sleep mode
     When sleep mode is on, the projector turns off the lamp if it has not received any input signals for the specified amount of time (1, 5, or 10 minutes). The default setting is OFF.
   - Projection
     Selects the projection method, as follows:

Setting	**Projector position**
Front	Projector is in front of the screen
Front/Ceiling	Projector is in front of the screen, mounted upside-down from the ceiling
Rear	Projector is behind the screen
Rear/Ceiling	Projector is behind the screen, mounted upside-down from the ceiling

   - Language
     Select from 9 languages to be used for the projector menus.

4. When you're finished, press Esc or Menu.

Saving and Recalling Image Quality Settings

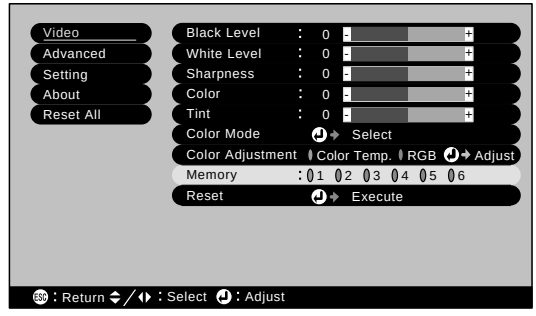
You can save the image quality settings for a particular computer or video source and then recall them later automatically by just pressing the Memory button on the remote control. This is useful if you use more than one input source with the projector; you can save the settings for each one and recall them when necessary.

You can save the settings in the Video and Advanced menus, as well as the current aspect ratio setting.

Saving Menu Settings

Follow these steps to save the projector's current settings:

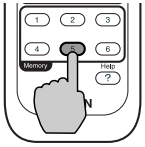
1. Press the Menu button to display the main menu.
2. Make sure all the settings are correct in the Video and Advanced menus.
3. Select Memory from the Video submenu.



4. Press the ◁ or ▷ button (control panel) or press right or left on the Select button (remote control) to choose the memory number you want to use for saving this group of settings. These numbers correspond to buttons 1 through 6 on the remote control.
5. Press the Select button to confirm the memory setting.
6. Press Esc or Menu to exit.

Recalling a Memory Setting

When you want to use a saved memory setting, press one of the memory buttons on the remote control. This applies the saved settings to the image currently being projected on the screen.

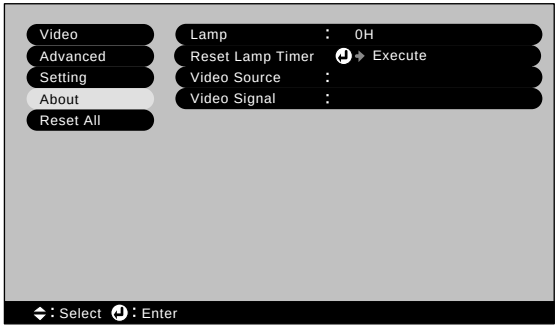


Viewing Lamp Usage and Other Information

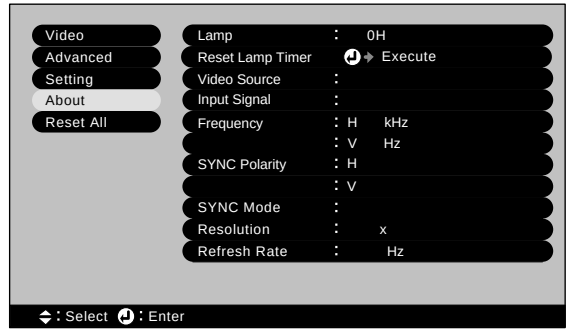
Use the About menu to view information about the display settings of your input source and the number of hours the lamp has been used.

1. Press the Menu button to display the menu screen.
2. Press the ▽ button on the control panel, or press down on the Select button on the remote control, to highlight the About menu.

   If the projector is connected to a video source, you see these settings:



If the projector is connected to a computer, you see these settings:

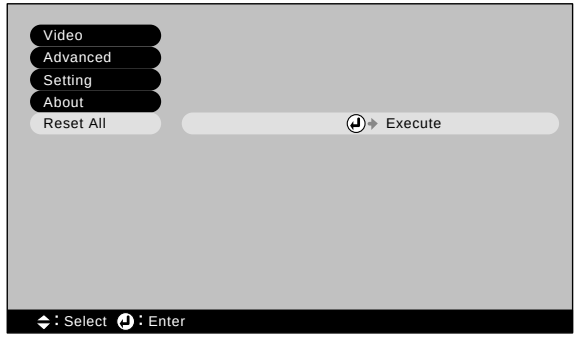


The life span of the lamp is about 3000 hours. If the number shown is close to 3000, make sure you have a spare lamp handy.

After you change the lamp, you need to reset the lamp timer. (See "Replacing the Lamp" on page 40 and "Resetting the Lamp Timer" on page 42.)

Restoring the Default Settings

The Reset All option lets you return all the projector settings to their default values.



Select Reset All and press the Select button to display the confirmation screen. Select Yes to reset all the default settings or No to cancel. Then press Esc.

3 Maintaining the Projector

Your projector needs little maintenance. All you need to do on a regular basis is keep the lens clean. Any dirt or smears on the lens may show up on your projected image.

You also need to periodically clean the air filter to prevent overheating.

The only parts you should replace are the lamp and air filter. If any other part needs replacing, contact your dealer or a qualified servicer.

This chapter covers the following:

- Cleaning the lens
- Cleaning the projector case
- Cleaning and replacing the air filter
- Replacing the lamp
- Storing the projector
- Transporting the projector

warning

Before you clean any part of the projector, turn it off and unplug the power cord. Never open any cover on the projector, except the lamp and filter covers. Dangerous electrical voltages in the projector can injure you severely. Do not try to service this product yourself, except as specifically explained in this User's Guide. *Refer all other servicing to qualified service personnel.*

Cleaning the Lens

Clean the lenses whenever you notice dirt or dust on the surface.

- Use a canister of compressed air to remove dust.
- To remove dirt or smears on the lenses, use lens-cleaning paper. If necessary, moisten a soft cloth with lens cleaner and gently wipe the lens surface.

caution
Do not rub the lens with any harsh materials.

Cleaning the Projector Case

Before you clean the case, first turn off the projector and unplug the power cord.

- To remove dirt or dust, wipe the case with a soft, dry, lint-free cloth.
- To remove stubborn dirt or stains, moisten a soft cloth with water and a neutral detergent. Then wipe the case.
- Do not use wax, alcohol, benzene, thinner, or other chemical detergents. These can damage the case.

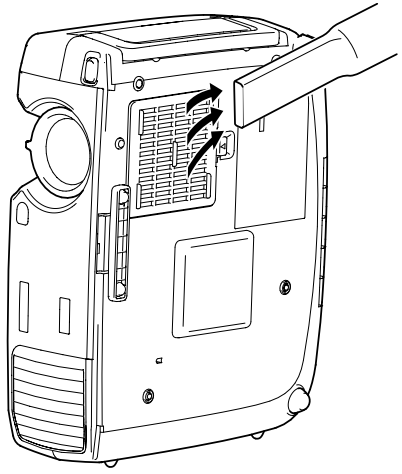
note
The inside of the projector should be cleaned by a qualified technician every two years to remove dust that may collect inside. Contact your dealer or service representative.

Cleaning and Replacing the Air Filter

Clean the air filter on the bottom of the projector after every 100 hours of use. If it is not cleaned periodically, it can become clogged with dust, preventing proper ventilation. This can cause overheating and damage the projector. To clean the air filter, follow these steps:

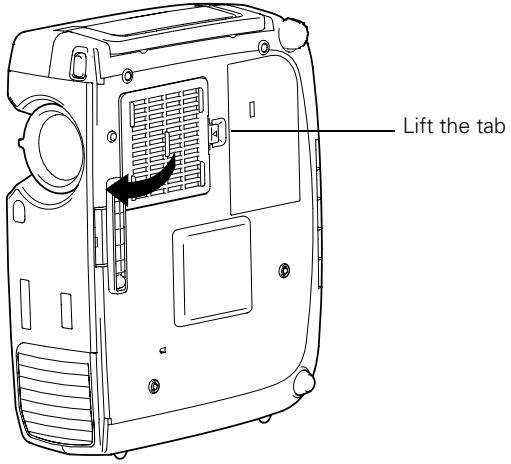
1. Turn off the projector and allow it to cool down.
2. Turn off the switch on the back of the projector.
3. Unplug the power cord.
4. Stand the projector on end with the handle on top to keep dust and dirt from falling inside.

5. To clean the filter, EPSON recommends using a small vacuum cleaner designed for computers and other office equipment. If you don't have one, gently clean the filter using a very soft brush (such as an artist's camel-hair brush).



If the dirt is difficult to remove or if the filter is broken, replace it. Contact your dealer or call EPSON at (800) 873-7766 in the United States to obtain a new one. In Canada, call (800) 463-7766 for dealer referral.

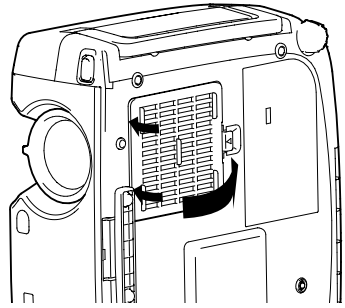
6. If you need to replace the filter, lift the tab to remove the filter.



note

When you get a replacement lamp for your projector, a new air filter is included. You should replace the filter when you replace the lamp.

7. To install a new filter, first insert the tabs, then press down until it clicks in place.



Replacing the Lamp

warning

Be extremely careful when removing the lamp module. In the unlikely event that the bulb has ruptured, small glass fragments may be present and should be removed with caution.

If your projector is mounted on the ceiling, you should take it down before accessing the lamp compartment. This will make it easier for you to replace the lamp and minimize the chance of any small glass fragments dropping from the projector.

warning

Let the lamp cool before replacing it. If the lamp breaks, handle the shards carefully to avoid injury.

The projection lamp typically lasts for about 3000 hours of use. It is time to replace the lamp when:

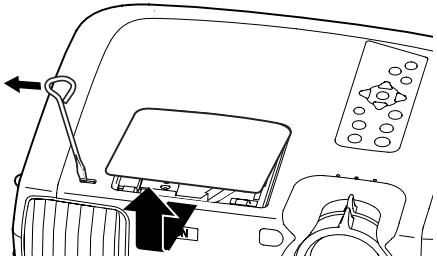
- The projection image gets darker or starts to deteriorate.
- The lamp light is red or flashing orange.
- The message LAMP REPLACE appears on the screen when the lamp comes on (after about 2900 hours of use). To maintain projector brightness and image quality, replace the lamp as soon as possible.

Contact your dealer or call EPSON at (800) 873-7766 in the United States for a replacement lamp. Request part number V13H010L17. In Canada, call (800) 463-7766 for dealer referral.

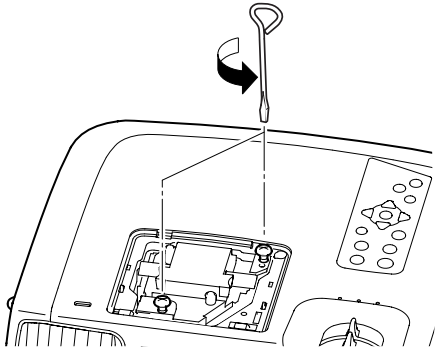
Be sure to read the "Important Safety Instructions" on page 63 before replacing the lamp; then follow these steps:

1. Turn off the projector and wait for it to cool down (until the light stops flashing).
2. Turn off the power switch on the back of the projector and unplug the power cord.
3. Allow the projector to cool for at least half an hour (if it has been on).

4. Use a screwdriver to slide the latch and pop open the lamp cover. Then lift up and remove it.



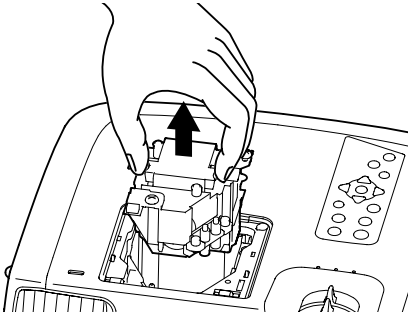
5. Use the screwdriver to loosen the two silver screws holding the lamp in place. (You can't remove these screws.)



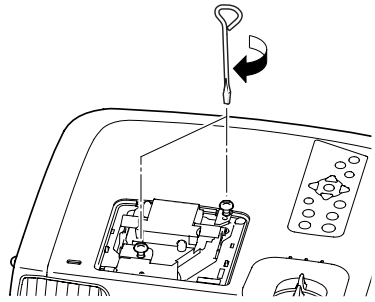
caution

Do not touch the glass portion of the lamp assembly. Touching the glass could result in premature lamp failure.

6. Grasp the lamp as shown and pull it straight out.



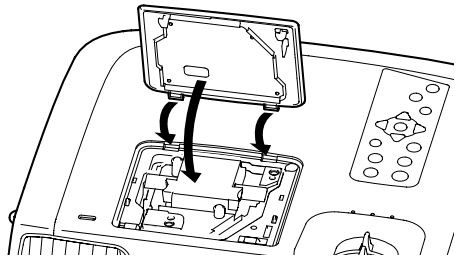
7. Gently insert the new lamp and tighten its screws.



warning

The lamp component contains mercury. Please consult your state and local regulations regarding proper disposal and do not place in a waste stream.

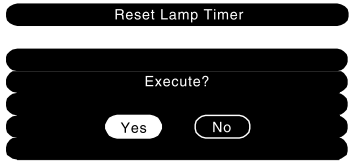
8. To replace the lamp cover, insert the tabs and then snap the cover into place. (The projector won't work if the lamp cover is loose.)



After replacing the lamp, you need to reset the lamp timer as described in the next section.

Resetting the Lamp Timer

1. Press the Menu button on the projector or the remote control.
2. Select the About menu.
3. Select Reset Lamp Timer. You see this prompt:



4. Select Yes and press Select.
5. When you're finished, press Esc or Menu.

The lamp usage timer doesn't register until you've used the lamp for at least 10 hours.

Storing the Projector

If you need to store the projector for a while, do the following:

- Make sure the temperature and humidity of the storage area are within the recommended range for the projector (14 to 140 °F [–10 to 60 °C] and 10 to 90% relative humidity).
- Package the projector in its original packaging or equivalent (as described in the following section).
- Attach the lens cover and retract the feet.
- Remove the batteries from the remote control.

Transporting the Projector

The projector contains many glass and precision parts. If you need to transport it, follow these packing guidelines to prevent damage to the projector:

- When shipping the projector for repairs, use the original packaging material if possible. If you do not have the original packaging, use equivalent materials, placing plenty of cushioning around the projector. Be sure the carrier company is capable of transporting fragile equipment and is aware that the projector is fragile.
- When transporting the projector a long distance, first put it in a carrying case (such as an optional EPSON case), then pack it in a firm box, using cushioning around the case.
- When you are hand-carrying the projector, use the carrying handle.

note

EPSON shall not be liable for any damages incurred during transportation.

4 Solving Problems

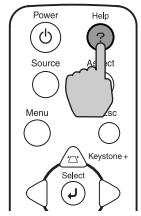
This chapter helps you solve problems with your projector, and tells you how to contact technical support for problems you can't solve yourself. This chapter explains:

- Using the projector's on-screen help system
- What to do when the projector's status lights flash
- Solving problems with the image
- Solving problems with the remote control
- Contacting technical support

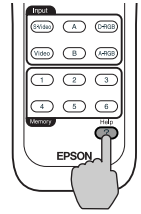
Using On-Screen Help

Follow these steps to access the projector's on-screen help:

1. Press the ? Help button on the projector or the remote control.

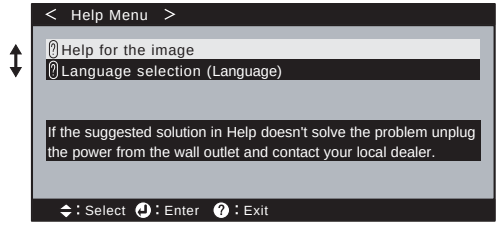


Projector

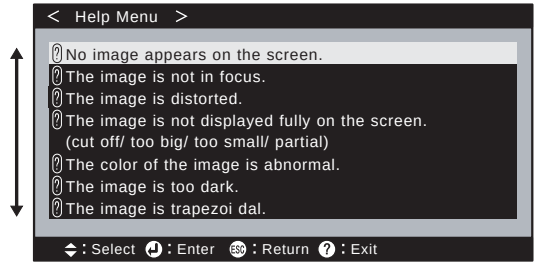


Remote control

You see the Help menu:


< Help Menu >
Help for the image
Language selection (Language)
If the suggested solution in Help doesn't solve the problem unplug the power from the wall outlet and contact your local dealer.
: Select : Enter : Exit

2. Choose the option you want and press the Select button. You see the submenu, such as:


< Help Menu >
No image appears on the screen.
The image is not in focus.
The image is distorted.
The image is not displayed fully on the screen.
(cut off/ too big/ too small/ partial)
The color of the image is abnormal.
The image is too dark.
The image is trapezoi dal.
: Select : Enter : Return : Exit

3. Highlight the problem you are having and press Select.

4. Highlight a solution (if this choice is available). Then press the Select button.

   Press the Esc button if you need to back up.

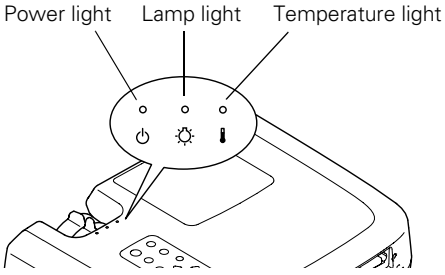
   If the solution is to adjust one of the settings, use the ▷, ◁, ⧋, or ▽ button on the projector or the Select button on the remote control to adjust it.

5. To exit, press the ? Help button again.

If none of the suggestions solves your problem, see additional solutions to problems in the following sections.

What To Do When the Lights Flash

The lights on top of the projector indicate the projector's status and let you know when a problem occurs.



If the projector is not working correctly, first turn it off, let it cool, and unplug it. Then plug the power cord back in and turn on the projector. If this does not solve the problem, check the status lights on top of the projector and try the solutions recommended on the following pages.

The ⏻ power light is flashing orange and you cannot turn on the projector.

The lamp is cooling down. Wait until the light turns off and then press the Power button to turn on the projector.

The ⏻ power light does not come on.

Make sure the power cord is connected securely both at the power outlet and the projector. If you have just replaced the lamp, make sure the cover is securely fastened.

The lamp warning light is red or flashing red.

Replace the lamp as described on page 40.

The lamp warning light is flashing orange.

The lamp is almost burned out. Make sure you have a replacement lamp ready.

The temperature light is flashing orange.

- The projector is too hot, and is in a high-speed cooling cycle. Make sure the room temperature does not exceed 95 °F (35 °C) and there is plenty of space around and under the projector for ventilation.
- The air filter may be clogged. Clean or replace it as described on page 38.

The temperature light is red.

- The projector is overheating, which turns the lamp off automatically. Wait until the cooling fan stops, then unplug the power cord. Plug the power cord back in and press the Power button. Make sure the room temperature is not above 95 °F (35 °C) and there is plenty of space around and under the projector for ventilation.
- The air filter may be clogged. Clean or replace it as described on page 38.
- If the projector continues to overheat after you clean the air filter, the problem may be caused by damage to the cooling fan or temperature sensor. Contact EPSON for help.

Refer to the following table for a complete description of the projector's status lights and their meaning.

warning

Except as specifically explained in this User's Guide*, do not attempt to service the projector yourself.*

Status lights

Light	Status	Description
⏻	orange	The projector is in standby mode. You can press the **Power** button to turn it on, or turn off the power switch on the back of the projector to turn it off.
⏻	flashing green	The projector is warming up. Wait for the image to appear.
⏻	green	The projector is operating normally.
⏻	flashing orange	The projector is cooling down. You can't turn it back on (and you should not turn off the main switch on the back or unplug it) until the light stops flashing and remains orange.
⏻ ☼ 🌡	red flashing red flashing red	Power is cut off because of an internal problem. Remove the power cord and contact your dealer for help.
☼	flashing orange	The lamp is almost burned out. Make sure you have a replacement lamp ready.
⏻ ☼	red red	The lamp is burned out. Replace it as described on page 40.
🌡	flashing orange	The projector is too hot and is in cooling mode. Make sure the temperature surrounding the projector does not exceed 95 °F (35 °C) and there is plenty of space around and under it for ventilation. Clean the air filter if necessary. See page 38 for instructions.
🌡 ⏻	red red	The projector is overheating, which turns off the lamp automatically. Let it cool for five minutes, then turn it back on. Make sure there is plenty of space around and under the projector for ventilation. If it continues to overheat, you may need to change the air filter. See page 38 for instructions.
⏻ ☼	red flashing red	The lamp was not cooled down properly. The main power switch was turned off before the projector cooled down the last time it was used, and then the projector was turned back on before one hour. Turn off the projector, wait 2 minutes, and when the fan stops, turn off the main switch. Wait another 2 minutes, then turn the projector back on.
⏻ 🌡	red flashing red	There is a problem with the cooling fan or temperature sensor. Turn off the projector and unplug it. Contact your dealer for help.

Solving Image Problems

No image appears on the screen.

- Check that the ⏻ power light is green, not flashing, and the lens cover is off.
- The projector may be in standby (or Sleep) mode. If the ⏻ power light is orange, press the Power button to turn the projector on. Check the Sleep mode setting in the Setting menu (page 33).
- If the power was switched off and then on again, the projector may still be cooling down. Wait until the power light stops flashing and remains orange; then press the Power button again.
- Make sure the power switch on the back of the projector is turned on.
- Try pressing the Power button on the remote control.
- Press the Blank button to make sure the picture has not been turned off temporarily.
- A video device connected to the projector may have turned off.
- The attached computer may be in sleep mode or displaying a black screen saver. Try pressing a key on the computer.
- Check the setting for the No-Signal msg. option in the Setting menu. If it is set to OFF, nothing will be displayed on the screen.

You see a blue screen with the message No Signal **displayed.**

- If you have more than one source connected to the projector, press the Source button on the projector or one of the Input buttons on the remote control to select the correct input source. Allow a few seconds for the projector to sync up after pressing the button.
- Make sure the cables are connected correctly, as described in the *Quick Setup* (or Appendix A, for computers).
- Make sure the input source is turned on.

- Check the settings for the Video Signal, Input A, or Input B options in the Advanced menu to make sure they are correct for the input source. (See page 31.)

If you're using a PC laptop:

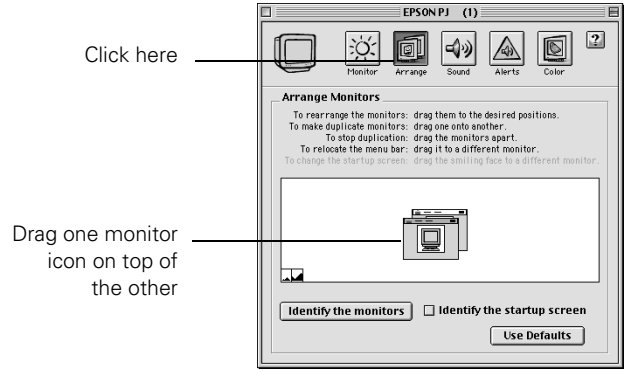
- Press the function key that lets you display on an external monitor. It's often labelled with an icon such as ⌨/🖵, but it may also be labelled CRT/LCD. You may have to hold down the Fn key while pressing it. Check your laptop's manual or online help for details.

  On most systems, the ⌨/🖵 key lets you toggle between the LCD screen and the projector, or display on both at the same time. Allow a few seconds for the projector to sync up after pressing it.

- Depending on your computer's video card, you might need to use the Display utility in the Control Panel to make sure that both the LCD screen and external monitor port are enabled. See your computer's documentation or online help for details.

If you're using a Macintosh laptop with OS 9.x or earlier:

1. From the Apple menu, select Control Panels, then click Monitors and Sound.
2. Click the Arrange icon, and then drag one monitor icon on top of the other.

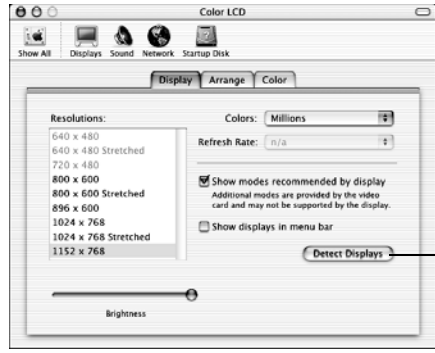

Click here
Drag one monitor icon on top of the other
EPSON PJ (1)
Monitor
Arrange
Sound
Alerts
Color
Arrange Monitors
To rearrange the monitors: drag them to the desired positions.
To make duplicate monitors: drag one onto another.
To stop duplication: drag the monitors apart.
To relocate the menu bar: drag it to a different monitor.
To change the startup screen: drag the smiling face to a different monitor.
Identify the monitors
Identify the startup screen
Use Defaults

note

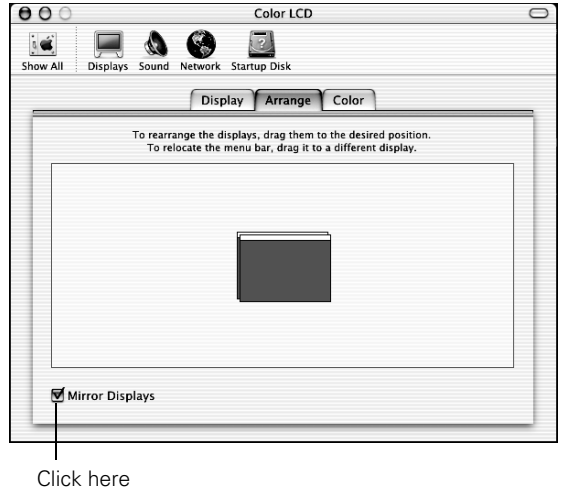
If the Arrange *option isn't available, you may need to select one of the Simulscan resolution settings. Click the* Monitor *icon and then select a Simulscan resolution from the ones in the Resolution box. (Allow a few seconds for the projector to sync up after making the selection.)*

If you're using a Macintosh laptop with OS X:

1. Select System Preferences from the Apple menu and click Displays.
2. Click Detect Displays.



3. To display the entire desktop on both your projector screen and LCD screen, click the Arrange tab. (If you don't see this tab, make sure it is not hidden by another window on your screen.)
4. Click Mirror Displays in the lower corner of the screen. One of the monitor icons automatically moves on top of the other.



The image is upside-down or reversed.

Change the setting for the Projection option in the Setting menu. (See page 33.)

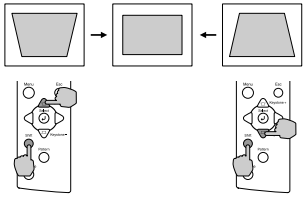
The message Not Supported is displayed.

- Make sure your computer's resolution doesn't exceed SXGA (1280 × 720). Also, make sure the frequency is supported by the projector. (See page 74.) If necessary, change your computer's resolution setting as described below.
- Check the settings for the Video Signal, Input A, or Input B options in the Advanced menu to make sure they are correct for the input source.

Only part of the image is displayed or the image is too small, too large, or compressed.

- Try selecting a different aspect ratio by pressing the Aspect button on the remote control. (See page 17.)
- Make sure the image Position setting is correct on the Video menu. See page 31 for more information.
- If you're using a computer, make sure its resolution setting is correct or select one of the compatible video formats listed on page 74.
  - **Windows**:
    Right-click the desktop, select Properties, click the Settings tab, and select a different resolution.
  - **Macintosh**:
    On the Apple menu, choose Control Panels, then click Monitors and Sound. Select a different resolution.
- You also may need to modify existing presentation files if you created them for a different resolution. See your software documentation for specific information.

The image isn't square, but trapezoid-shaped.



If you've tilted the projector upward by extending the foot, the image will be broader at the top. If it is tilting downward, it will be broader at the base. To correct this, hold down the Shift button on the projector's control panel and press the top or bottom Keystone button until the corners of the image are square.

The image contains static or noise.

- If you are projecting from a 480i or 575i input source, turn on the Noise Reduction feature in the Advanced menu to reduce visual noise. See page 31.
- Make sure the Video Signal, Input A, or Input B options in the Advanced menu are correct. See page 31.
- If you're using a computer cable longer than 6 feet (2 meters), or an extension cable, the image quality may be reduced. Also, keep your computer and video cables away from the power cord as much as possible to prevent interference.
- The video signal may be split between the computer and the projector. If you notice a decline in the projected image quality when the image is displayed simultaneously on your laptop computer and the projector, turn off the laptop's LCD display.

The image is blurry.

- There may be dirt or smears on the lens. Clean the lens as described on page 38.
- Adjust the focus using the focus ring or display the test pattern by pressing the Pattern button.
- Make sure the lens is not fogged by condensation. You may need to wait before using the projector after moving it from a cold environment to a warm environment.

- Adjust the Sharpness setting on the Video menu (see page 28). When you change video settings, you should be able to see the effect on the screen immediately. If you're projecting from a computer, you may also need to adjust the tracking and sync as described in the next section. If you don't like the new settings, you can always select Reset to return to the factory default settings.
- Make sure the input signal matches the connected source. Check the settings for the Video Signal, Input A, and Input B options in the Advanced menu. (See page 31 for more information.)
- If a computer is connected to the projector, make sure the correct resolution is selected. See your computer documentation.

You see vertical stripes or the image still looks blurry after trying the solutions in the previous section.

- If you're projecting from a computer and displaying an image that contains a lot of fine detail, you may notice one or more vertical stripes or bands, or some of the characters may look heavy or blurred. Press the Auto button on the remote control. This resets the projector's tracking and sync settings.
- If further adjustment is needed, you can fine-tune the Tracking and Sync settings manually using the Video menu as described on page 29.

The colors of the image are not right.

- Select a different color mode by pressing the Colortune button on the projector or remote control or selecting the Color Mode option the Video menu.
- To increase or reduce contrast, try adjusting the Black Level and White Level in the Video menu.
- If you're displaying video, adjust the Color or Tint in the Video menu.
- Adjust the color contrast with the Color Adjustment option in the Video menu.

note

Because of the different technologies used, your projected image may not exactly match the colors on your laptop or computer monitor.

- Make sure the input signal matches the connected source. Check the settings for the Video Signal, Input A, and Input B options in the Advanced menu. (See page 31 for more information.)
- If the input source is a computer, check its display settings to correct the color balance.
- If the lamp is running out, the image will become darker. You may need to replace the lamp.

Solving Problems with the Remote Control

The projector doesn't respond to remote control commands.

- Make sure you are within 30 feet (9 meters) of the projector, and within range of the projector's front or back sensor (approximately 30° to left or right and 15° above or below).
- The remote control batteries may not be installed correctly or may be low on power. Try replacing the batteries.
- Dim the room lights and turn off any fluorescents. Make sure the projector is not in direct sunlight. Strong lighting, especially fluorescent lights, may affect the projector's infrared receivers.
- Turn off any nearby equipment that emits infrared energy, such as a radiant room heater.

Where To Get Help

EPSON provides technical assistance through electronic support services 24 hours a day, as listed in the following table.

Service	Access
World Wide Web	From the Internet, you can reach EPSON's product support page at **http://support.epson.com.** After selecting your product, you can access troubleshooting information, download product documentation, and receive technical advice through e-mail.
Presenters Online	Access tips, templates, and training for developing successful presentations at **http://www.presentersonline.com**

Telephone Support Services

To use the EPSON PrivateLine Support service, call (800) 637-7661 and enter the PIN on the EPSON PrivateLine Support card included in your owner's kit. This is the fastest way of speaking to a live representative, and it's free. This service is available 6 AM to 6 PM, Pacific Time, Monday through Friday, for the duration of your warranty period.

You may also speak with a projector support specialist by dialing one of these numbers:

- U.S.: (562) 276-4394, 6 AM to 6 PM, Pacific Time, Monday through Friday
- Canada: (905) 709-3839, 6 AM to 6 PM, Pacific Time, Monday through Friday

Toll or long distance charges may apply.

Before you call, please have the following information ready:

- Product name (EPSON PowerLite TW100)
- Product serial number (located on the bottom of the projector)
- Computer configuration
- Description of the problem

You can purchase screens, carrying cases, or other accessories from EPSON at (800) 873-7766 or by visiting the EPSON Store at www.epsonstore.com (U.S. sales only). In Canada, please call (800) 463-7766 for dealer referral.

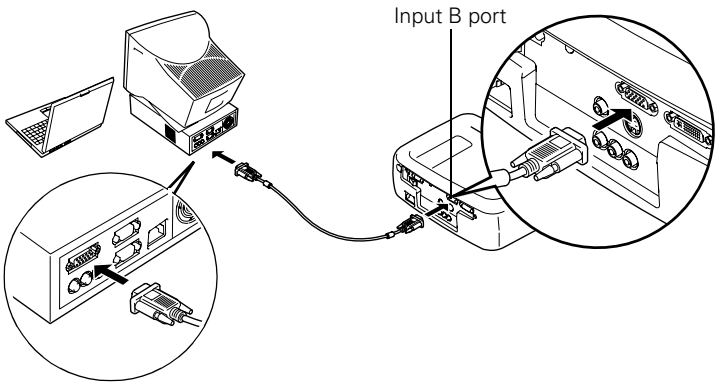
A Appendix A: Connecting the Projector to a Computer

This appendix explains how to connect a laptop or desktop PC or Macintosh to the projector's VGA or DVI interface. Before you start, make sure you have the proper cables, identified on page 2.

Connecting to a VGA Computer Source

You can connect the projector to any computer that has a standard video output (monitor) port, including PC notebook and laptop computers, Macintosh PowerBooks, and hand-held devices. For this connection, you'll need an optional VGA computer cable. (See page 2.)

1. Make sure your computer and the projector are turned off.
2. If you are connecting to a desktop computer, disconnect the monitor cable from the video port on the back of the computer.
3. Connect one end of the computer cable to the projector's Input B port.

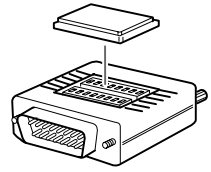


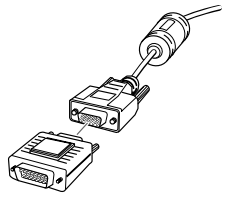
note
You can purchase a desktop adapter from EPSON; see page 4.

4. Connect the other end of the computer cable to your computer's video port.

   If you're using a Macintosh and the cable doesn't fit, you may need to use the Macintosh desktop adapter.

   To use the adapter, remove its cover as shown and set its DIP switches according to the resolution you want to use, such as 16-inch mode. See your Macintosh documentation for instructions.





   Replace the cover and connect the adapter to the free end of the computer video cable. Then plug the cable (with the adapter) into the video port on your Macintosh.

5. Tighten the screws on the connectors.

Now you are ready to plug in your projector and turn it on. See page 8 for instructions.

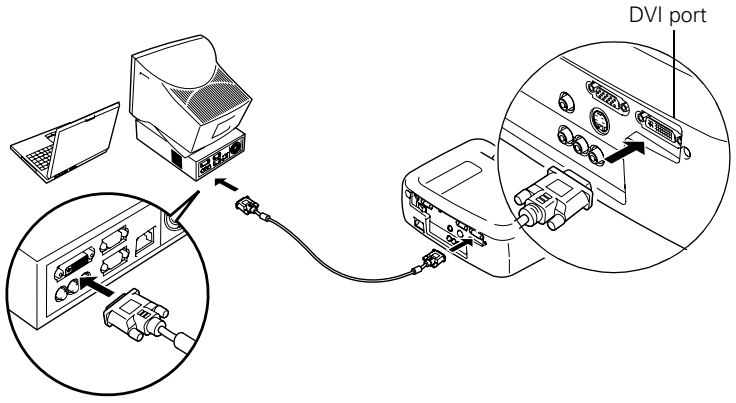
Be sure to check the setting for the Input B port in the Setting menu (as described on page 31) to make sure it is correct for your computer.

Connecting to a DVI Computer Source

The projector's DVI (Digital Visual Interface) port receives pictures directly from your computer in digital format. This lets the projector display images of greater clarity than can be achieved using a standard analog VGA connection. You'll need one of the optional DVI cables described on page 4.

Follow these steps:

1. Make sure your computer and the projector are turned off.
2. If you are connecting to a desktop computer, disconnect the monitor cable from the video port on the back of the computer.
3. Connect one end of the DVI cable to the projector's DVI port.
4. Connect the other end of the cable to your computer's video port.



5. Tighten the screws on the connectors.

Now you are ready to plug in your projector and turn it on. See page 8 for instructions.

Be sure to check the setting for the Input A port in the Setting menu (as described on page 31) to make sure it is correct for your computer.

Appendix B: Notices

This chapter includes safety instructions and other important information about your EPSON PowerLite projector.

Important Safety Instructions

Follow these safety instructions when setting up and using the projector:

- Do not place the projector on an unstable cart, stand, or table.
- Do not use the projector near water or sources of heat.
- Use the type of power source indicated on the projector. If you are not sure of the power available, consult your dealer or power company.
- Place the projector near a wall outlet where the plug can be easily unplugged.

  Placez l'appareil près d'une prise de courant où la fiche peut être débranchée facilement.
- Insert the projector's three-wire grounding-type plug into a properly grounded outlet. If you have a two-prong outlet, contact an electrician to replace it. Do not hold the plug with wet hands.
- Take the following precautions for the plug. Failure to comply with these precautions could result in sparks or fire: Do not insert the plug into an outlet with dust present. Insert the plug firmly into the outlet.
- Do not overload wall outlets, extension cords, or integral convenience receptacles. This can cause fire or electric shock.
- Do not place the projector where the cord can be walked on. This may result in fraying or damage to the plug.
- Unplug the projector from the wall outlet before cleaning. Use a damp cloth for cleaning. Do not use liquid or aerosol cleaners.
- Do not block the slots and openings in the projector case. They provide ventilation and prevent the projector from overheating. Do not operate the projector on a sofa, rug, or other soft surface, or in a closed-in cabinet unless proper ventilation is provided.

- Never push objects of any kind through the cabinet slots. Never spill liquid of any kind into the projector.
- Except as specifically explained in this *User's Guide*, do not attempt to service this product yourself. Refer all servicing to qualified personnel. Opening or removing covers may expose you to dangerous voltages and other hazards.
- Unplug the projector during lightning storms or when it will not be used for extended periods.
- Do not place the projector and/or remote control on top of heat-producing equipment or in a hot location.
- Unplug the projector from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - When the power cord or plug is damaged or frayed.
  - If liquid has been spilled into the projector, or if it has been exposed to rain or water.
  - If it does not operate normally when you follow the operating instructions, or if it exhibits a distinct change in performance, indicating a need for service.
  - If it has been dropped or the housing has been damaged.
- If you use the projector in a country other than where you purchased it, use the correct power cord for that country.
- Do not stand on the projector or place heavy objects on it.
- Do not use the projector outside of the required temperature range of 41 to 95 °F (5 to 35 °C). Doing so may cause an unstable display and could lead to projector damage.
- Do not store the projector outside of the required temperature range of 14 to 140 °F (–10 to 60 °C) or in direct sunlight for long periods of time. Doing so may cause damage to the case.
- The projector contains many glass parts such as the lens and projection lamp. The lamp is fragile and can easily break. If the lamp breaks, handle the projector very carefully to avoid injury from broken glass, and contact your dealer or service representative for repair. Be careful to avoid getting pieces of glass in the eyes or mouth.
- Be particularly careful if the projector is installed against the ceiling, as small pieces of glass may fall down when the lamp cover is removed.
- Never try to remove the lamp immediately after use, as this will cause serious burns. Follow the instructions in Chapter 3 to replace the lamp.

- A mercury lamp with high internal pressure is used as the projector's light source. Mercury lamps may make a loud noise when they break. To avoid injury or poisoning, handle the lamp with extreme care while observing the following:
  - Do not damage the lamp or subject it to any impacts.
  - Do not use the lamp after the lamp replacement period has elapsed, as the possibility of breaking the lamp increases. Replace the lamp with a new one as soon as possible after receiving the lamp replacement message.
  - The gases inside mercury lamps contain mercury vapor which is released when the lamps break. If the lamp breaks, immediately ventilate the room to prevent the gases from being inhaled or coming into contact with the eyes or mouth.
  - Do not bring your face close to the projector while it is in use.
  - If the lamp breaks and gas from the lamp or fragments of broken glass are inhaled or get into the eyes or mouth, or if any other ill effects are noticed, immediately seek medical attention.
  - Please consult your state and local regulations regarding proper disposal of the lamp and do not place in a waste stream.

Remote Control Information

You can operate the projector by remote control via a line-of-sight infrared (IR) receiver at the front and rear of the projector. The projector may not respond to remote control commands under the following conditions:

- There is an object between the remote control IR emitter and the IR receiver on the projector.
- Ambient light is too bright.
- Certain types of fluorescent lighting are used.
- A strong light source shines into the IR receiver.
- Other equipment that emits infrared energy, such as a radiant room heater, is in the room.

These conditions commonly cause problems for most infrared-controlled equipment. Try the following:

- The remote control unit's batteries may be low on power; replace them.
- Dim the ambient lighting and/or turn off any fluorescent lights.
- Close any window coverings and/or move the projector out of direct sunlight.
- Turn off other equipment that emits infrared energy.

If the remote control still does not work properly, remember you can always control your computer-based presentation directly from the computer, even in an environment containing one of the conditions listed above.

Declaration of Conformity

According to 47CFR, Part 2 and 15

Class B Personal Computers and Peripherals; and/or CPU Boards and Power Supplies used with Class B Personal Computers

We:	EPSON AMERICA, INC.
Located at:	3840 Kilroy Airport Way MS: 3-13 Long Beach, CA 90806-2469
Telephone:	(562) 290-5254

Declare under sole responsibility that the product identified herein, complies with 47CFR Part 2 and 15 of the FCC rules as a Class B digital device. Each product marketed, is identical to the representative unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on a statistical basis as required by 47CFR §2.909. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Trade Name:	EPSON
Type of Product:	Multimedia Projector
Model:	EMP-TW100

FCC Compliance Statement

For United States Users

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING

The connection of a non-shielded equipment interface cable to this equipment will invalidate the FCC Certification of this device and may cause interference levels which exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. If this equipment has more than one interface connector, do not leave cables connected to unused interfaces. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

For Canadian Users

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le materiel brouilleur du Canada.

Warranty

Epson America, Inc. Limited Warranty

Basic Two-Year Warranty and 90-Day Lamp Warranty

What Is Covered: Epson America, Inc. ("EPSON") warrants to the first end user customer of the EPSON product enclosed with this limited warranty statement that the product, if purchased and used in the United States or Canada, conforms to the manufacturer's specifications and will be free from defects in workmanship and materials for a period of two (2) years from the date of original purchase (except that the warranty period is 90 days for projector lamps).

What EPSON Will Do To Correct Problems: If you elect carry-in warranty service, please bring the product securely packaged in its original container or an equivalent, along with proof of the date of original purchase, to your EPSON Dealer or EPSON Customer Care Center. EPSON will, at its option, repair or replace on an exchange basis the defective unit, without charge for parts or labor. When warranty service involves the exchange of the product or of a part, the item replaced becomes EPSON property. The exchanged product or part may be new or previously repaired to the EPSON standard of quality. Exchange or replacement products or parts assume the remaining warranty period of the product covered by this limited warranty. However, each replacement lamp carries the limited 90-day warranty stated above.

What This Warranty Does Not Cover: This warranty covers only normal consumer use in the United States and Canada. For lamps, 24-hour-per-day use causes unusual strain and is not considered normal use. This warranty does not cover consumables (e.g., fuses), other than lamps. EPSON is not responsible for warranty service should the EPSON label or logo or the rating label or serial number be removed or should the product fail to be properly maintained or fail to function properly as a result of misuse, abuse, improper installation, neglect, improper shipping, damage caused by disasters such as fire, flood, and lightning, improper electrical current, software problems, interaction with non-EPSON products, or service other than by an EPSON Authorized Servicer. Postage, insurance, or shipping costs incurred in presenting your EPSON product for carry-in warranty service are your responsibility. If a claimed defect cannot be identified or reproduced in service, you will be held responsible for costs incurred.

THE WARRANTY AND REMEDY PROVIDED ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS

FOR A PARTICULAR PURPOSE. SOME LAWS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES. IF THESE LAWS APPLY, THEN ALL EXPRESS AND IMPLIED WARRANTIES ARE LIMITED TO THE WARRANTY PERIOD IDENTIFIED ABOVE. UNLESS STATED HEREIN, ANY STATEMENTS OR REPRESENTATIONS MADE BY ANY OTHER PERSON OR FIRM ARE VOID. EXCEPT AS PROVIDED IN THIS WRITTEN WARRANTY, NEITHER EPSON AMERICA, INC. NOR ITS AFFILIATES SHALL BE LIABLE FOR ANY LOSS, INCONVENIENCE, OR DAMAGE, INCLUDING DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, RESULTING FROM THE USE OR INABILITY TO USE THE EPSON PRODUCT, WHETHER RESULTING FROM BREACH OF WARRANTY OR ANY OTHER LEGAL THEORY. IF THE REMEDY ABOVE FAILS, EPSON'S ENTIRE LIABILITY SHALL BE LIMITED TO A REFUND OF THE PRICE PAID FOR THE EPSON PRODUCTS COVERED BY THIS LIMITED WARRANTY.

In Canada, warranties include both warranties and conditions.

Some jurisdictions do not allow limitations on how long an implied warranty lasts and some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from jurisdiction to jurisdiction.

To locate the Authorized EPSON Servicer nearest you, call the EPSON Connection℠ at (800) 637-7661 + PIN or (562) 276-4394 in the U.S. and (905) 709-3839 in Canada or write to: Epson America, Inc., P.O. Box 93012, Long Beach, CA 90809-3012.

C Appendix C: Technical Specifications

General

Type of display	Poly-silicon TFT active matrix
Size of LCD panels	Diagonal: 0.9 inches (22.9 mm)
Lens	F=1.74 to 2.06, f=28.3 mm to 37.98 mm
Resolution (native format)	1280 × 768 pixels
Color reproduction	24 bit, 16.7 million colors
Brightness	3000 lumens (ANSI)
Optical aspect ratio	16:9 (horizontal : vertical)
Contrast ratio	600:1
Image size	30 to 300 inches
Projection distance	3.0 to 42.7 feet (0.91 to 13.01 meters)
Projection methods	Front, rear, upside-down (ceiling mount)
Zoom ratio	1:135
Noise level	30 dB
Keystone correction angle	Vertical: ± 15° (maximum)
Keystone correction ratio	7.3:–1

Projection Lamp

Type	UHE (Ultra High Efficiency)
Power consumption	150 W
Lamp life	About 3000 hours
Part number	V13H010L17

Remote Control

Range	32.8 feet (10 meters)
Batteries	Alkaline AA (2)

Dimensions

Height	4.1 inches (104 mm)
Width	13.7 inches (348 mm)
Depth	10.8 inches (274 mm)
Weight	9.3 lb (4.2 kg)

Electrical

Rated frequency	50/60 Hz AC
Power supply	100 to 120 VAC, 2.7A 200 to 240 VAC, 1.3 A
Power consumption	Operating: 240 W Standby: 6.7 W

Environmental

Temperature	Operating: 41 to 95 °F (5 to 35 °C) Storage: 14 to 140 °F (–10 to 60 °C)
Humidity	Operating: 20 to 80% RH, non-condensing Storage: 10 to 90% RH, non-condensing

Safety

United States	FCC Part 15J Class B UL1950 Rev. 3
Canada	DOC SOR/88-475 CSA C22.2 No. 950 Rev. 3 (cUL)
CE Marking	Directive 73/23/EEC EN 60950 Directive 89/336/EEC EN 55022, EN 55024

Input B Port Pin Assignments

The Input B port is a female video RGB, 15-pin micro-D-style connector. Here are its pin assignments:

Pin no.	Computer port	Pin no.	Computer port
1	Red video	9	Reserved
2	Green video	10	Synchronous GND
3	Blue video	11	GND
4	GND	12	SDA
5	GND	13	Horizontal sync / composite sync
6	Red GND	14	Vertical sync
7	Green GND	15	SCL
8	Blue GND		

Compatible Video Formats

The projector supports NTSC, PAL, and SECAM international video standards, as well as the monitor display formats listed below.

To project images output from a computer, the computer's video card must be set at a refresh rate (vertical frequency) that's compatible with the projector; see the following table for compatible formats. As noted below, some images are automatically resized to display in one of the projector's "native" formats. In addition, the frequencies of some computers may not allow images to display correctly; see your computer's documentation for details.

Mode	Refresh Rate (Hz)	Resolution	DVI support
PC98	57	640 × 400	supported
VGAEGA	70	640 × 350	supported
VGA60	60	640 × 480	supported
VESA72	72	640 × 480	supported
VESA75	75	640 × 480	supported
VESA85	85	640 × 480	supported
SVGA56	56	800 × 600	supported
SVGA60	60	800 × 600	supported
SVGA72	72	800 × 600	supported
SVGA75	75	800 × 600	supported
SVGA85	85	800 × 600	supported
XGA43i	43	1024 × 768*	
XGA60	60	1024 × 768*	supported
XGA70	70	1024 × 768*	supported
XGA75	75	1024 × 768*	supported
XGA85	85	1024 × 768*	supported
SXGA1—70	70	1152 × 864*	supported
SXGA1—75	75	1152 × 864*	supported
SXGA1—85	85	1152 × 864*	supported
SXGA2—60	60	1280 × 960*	supported
SXGA2—75	75	1280 × 960*	supported
SXGA2—85	85	1280 × 960*	
SXGA3—43i	43	1280 × 1024*	
SXGA3—60	60	1280 × 1024*	supported
SXGA3—75	75	1280 × 1024*	supported
SXGA3—85	85	1280 × 1024*	

Mode	Refresh Rate (Hz)	Resolution	DVI support
iMAC VGA	117	640 × 480	
iMAC SVGA	95	800 × 600	
iMAC XGA	75	1024 × 768*	supported
MAC II 13	67	640 × 480	supported
MAC16	75	832 × 624	supported
MAC19	75	1024 × 768*	supported
MAC21	75	1152 × 870*	supported
TV480i	60	—	
TV575i	50	—	
SDTV480p	60	—	supported
SDTV575P	50	*	supported
HDTV720p	60	—	supported
HDTV1080i	60	—	
	60	—	
NTSC4.43	60	—	
PAL	50	—	
M-PAL	60	—	
N-PAL	50	—	
PAL60	60	—	
SECAM	50	—	

* The image is resized so that it displays using one of the projector's native formats.

ESC/VP21 Commands

When the projector is in a command ready state, it returns the **:** code. When command processing is complete, the projector also returns a **:** code. If command processing terminates with an error, an error message is output and then the **:** code is sent.

The complete list of commands is available through the Internet at http://support.goepson.com.

Item		**Command**
Power ON/OFF	ON	PWR ON
	OFF	PWR OFF
Signal selection	Input B (Analog-RGB)	SOURCE 11
	Input B (Digital-RGB)	SOURCE 12
	Inpuy B (RGB-Video)	SOURCE 13
	Input A/Component Video (Analog-RGB)	SOURCE 21
	Input A/Component Video (RGB-Video)	SOURCE 22
	Input A/Component Video (YCbCr)	SOURCE 23
	Input A/Component Video (YPbPr)	SOURCE 24
	Video	SOURCE 41
	S-Video	SOURCE 42
Blank ON/OFF	ON	MUTE ON
	OFF	MUTE OFF
Blank selection	Black	BSEL 00
	Blue	BSEL 01
	User's Logo	BSEL 02

Screen Size and Projection Distances

The distance between the projector and the screen determines the basic size of the projected image, as shown below. Because other adjustments—such as those made with the zoom ring, Aspect button, and Keystone button—also affect the size of the image, the numbers in the table should be considered for general guidelines, not exact measurements.

Screen size	**Approximate projection distance**
30 in. (2.1 × 1.2 ft.) (66 × 37 cm.)	3.0 – 4.1 ft (0.9 – 1.2 m)
40 in. (2.8 × 1.6 ft.) (89 × 50 cm.)	4.0 – 5.5 ft (1.2 – 1.6 m)
60 in. (4.2 × 2.4 ft.) (130 × 75 cm.)	6.1 – 8.4 ft (1.8 – 2.5 m)
80 in. (5.7 × 3.2 ft.) (180 × 100 cm.)	8.2 – 11.2 ft (2.5 – 3.4 m)
100 in. (7.2 × 4.1 ft.) (220 × 120 cm.)	10.3 – 14.1 ft (3.1 – 4.3 m)
200 in. (14.4 × 8.2 ft.) (440 × 250 cm.)	20.9 – 28.4 ft (6.3 – 8.6 m)
300 in. (21.6 × 12.1 ft) (660 × 370 cm.)	31.4 – 42.7 ft (9.5 – 13.0 m)

Supported Signal Resolutions

Component video

Signal	Resolution	Aspect mode				
		Normal	**Squeeze**	**Zoom**	**Through**	**Squeeze Through**
SDTV (480i, 60Hz)	640 × 480 640 × 360 (when zoomed)	960 × 720 (4:3 aspect)	1280 × 720 (16:9 aspect)	1280 × 720 (16:9 aspect)	590 × 442 (4:3 aspect)	786 × 442 (16:9 aspect)
SDTV (575i, 50Hz)	768 × 576 768 × 432 (when zoomed)	960 × 720 (4:3 aspect)	1280 × 720 (16:9 aspect)	1280 × 720 (16:9 aspect)	700 × 525 (4:3 aspect)	934 × 525 (16:9 aspect)
SDTV (480p)	640 × 480 640 × 360 (when zoomed)	960 × 720 (4:3 aspect)	1280 × 720 (16:9 aspect)	1280 × 720 (16:9 aspect)	590 × 442 (4:3 aspect)	786 × 442 (16:9 aspect)
SDTV (575p)	768 × 576 768 × 432 (when zoomed)	960 × 720 (4:3 aspect)	1280 × 720 (16:9 aspect)	1280 × 720 (16:9 aspect)	700 × 525 (4:3 aspect)	934 × 525 (16:9 aspect)
HDTV (720p) 16:9	1280 × 720	1280 × 720 (16:9 aspect)	–	–	1178 × 664 (16:9 aspect)	–
HDTV (1080i) 16:9	1920 × 1080	1280 × 720 (16:9 aspect)	–	–	886 × 498 (16:9 aspect)	–

Composite Video/S-Video

Signal	Resolution	Aspect mode				
		Normal	**Squeeze**	**Zoom**	**Through**	**Squeeze Through**
TV (NTSC)	640 × 480 640 × 360 (when zoomed)	960 × 720 (4:3 aspect)	1280 × 720 (16:9 aspect)	1280 × 720 (16:9 aspect)	590 × 442 (4:3 aspect)	786 × 442 (16:9 aspect)
TV (PAL, SECAM)	768 × 576 768 × 432 (when zoomed)	960 × 720 (4:3 aspect)	1280 × 720 (16:9 aspect)	1280 × 720 (16:9 aspect)	700 × 525 (4:3 aspect)	934 × 525 (16:9 aspect)

RGB

Signal	Resolution	Aspect		
		Normal	**Zoom**	**Through**
PC98	640 × 400	1152 × 720	–	640 × 400
EGA	640 × 350	1280 × 700	–	640 × 350
VGA 60*, SDTV (525p)	640 × 480 640 × 360 (when zoomed)	960 × 720	1280 × 720	640 × 480
VESA 72/75/85, iMac**	640 × 480 640 × 360 (when zoomed)	960 × 720	1280 × 720	640 × 480
SVGA 56/60*/72/75/85/, iMac**	800 × 600 800 × 450 (when zoomed)	960 × 720	1280 × 720	800 × 600
XGA 43i/60*/70/75/85, iMac**	1024 × 768 1024 × 576 (when zoomed)	960 × 720	1280 × 720	–
1152 × 864 70/75/85	1152 × 864 1152 × 648 (when zoomed)	960 × 720	1280 × 720	–
QVGA 60*/75/85	1280 × 960 1280 × 720 (when zoomed)	960 × 720	1280 × 720	–
SXGA 43i/60*/75/85	1280 × 1024 1280 × 720 (when zoomed)	900 × 720	1280 × 720	–
MAC13"	640 × 480	960 × 720	–	640 × 480
MAC16"	832 × 624	960 × 720	–	832 × 624
MAC19"	1024 × 768	960 × 720	–	–
MAC21"	1152 × 870	954 × 720	–	–
SDTV (480i, 60Hz)	640 × 480 640 × 360 (when zoomed)	960 × 720	1280 × 720	590 × 442
SDTV (575i, 50Hz)	768 × 576 768 × 432 (when zoomed)	960 × 720	1280 × 720	700 × 525
SDTV (575p)	768 × 576 768 × 432 (when zoomed)	960 × 720	1280 × 720	700 × 525
HDTV (720p)	1280 × 720	1280 × 720	–	1178 × 664
HDTV (1080i, 1080p)	1920 × 1080	1280 × 720	–	886 × 498

* These resolutions are compatible with both analog and digital formats.

** This connection is not possible for models that are not equipped with a VGA output port.

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